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ABSTRACT

This paper reviews the historical antecedents and theoretical foundation for a constructivist approach to teaching and learning. One neglected characteristic of constructivism apparent in the professional literature is the need to better understand that human relationships in the classroom are often pivotal in helping students construct knowledge. This paper employs the crucial connection between humanistic psychology (counseling and psychotherapy) and cognitive psychology (construction of knowledge) as the theoretical and research foundation to highlight how constructivism relies upon mentally healthy relationships in the classroom. Key elements of the change process and human interaction inherent in a constructivist perspective are provided with the hope of further advancing the judicious implementation of such ideas. (Contains 15 references.) (Author/SM)

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Human Relationships That Nurture And Advance The Construction of Knowledge

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Abstract

This paper reviews the historical antecedents and theoretical foundation for a constructivist approach to teaching and learning. One neglected characteristic of constructivism apparent in the professional literature lies in the need to better understand that human relationships in the classroom are often pivotal in helping students construct knowledge. The crucial connection between humanistic psychology (counseling and psychotherapy) and cognitive psychology (construction of knowledge) is employed as the theoretical and research foundation to highlight how constructivism relies upon mentally healthy relationships in the classroom. Key elements of the change process and human interaction inherent in a constructivist perspective are provided with the hope of further advancing the judicious implementation of such ideas.

Human Relationships That Nurture And Advance The Construction of Knowledge

The constructivist approach to teaching and learning continues be a dominant force in education today as many search for new alternatives and innovations to advance the field. The influence of the cognitive viewpoint in psychology can clearly be seen as interest remains strong among practitioners, researchers, and policy makers in such areas as cognitive functioning, memory, critical thinking, and the transfer of knowledge. The constructivist viewpoint offers valuable insights into all of these topics and the more general topic of how human beings learn.

The rich pool of ideas, metaphors, and limitations generated from the constructivist viewpoint has the potential to revolutionize and advance education. Along with this potentiality, there are serious unanswered questions, instructional pitfalls, and serious weaknesses inherent in such a viewpoint. This paper will examine some of these strengths and weaknesses within the context of an examination of human relationships and interactions that are crucial to the success of employing a constructivist approach in the classroom.

What is Constructivism?

As the constructivist perspective on teaching and learning continues to gain momentum among theorists, researchers, practitioners, and policy makers, it is important that we clarify at the outset exactly what we mean by constructivism.

Saunders (1992) defined constructivism as "the notion that learners respond to their sensory experiences by building or constructing in their minds, schemas or cognitive structures which constitute the meaning and understanding of their world" (p. 136). Watts (1994) conceptualized teaching in terms of a juxtapositional dichotomy and described "strong" constructivist tendencies in terms of the following elements: cognitive meaning that is active, anticipatory, whole-bodied, and form giving; cognitive processes include structure and organization; meanings are constructed and qualified against a backdrop of other meanings; knowledge is transitory and provisional; and ideas need to be communicated, tested, and cared for in a social context (p. 52).

Some authors have attempted to help educators navigate the educational landscape by reminding us that constructivist theory is not a unified viewpoint. Airasian and Walsh (1997) have argued that two forms of constructivism exist: (1) the individualistic developmental approach exemplified by the work of Jean Piaget and (2) the sociocultural approach where the individual interacts with the milieu in which he or she is situated. DeVries (1997) recently argued that it is inaccurate to assume that Piaget's work only considered individualistic elements and outlined Piaget's lesser known social theory.

We believe that these forms of constructivism are <u>not</u> mutually exclusive or bi-polar and such ideas at the most fundamental levels actually can complement each other. Perhaps

the notion of interactionism is most salient here. The individual can interact internally through self-talk, dreams, and creative dialogue even without extensive external stimulation. On the other hand, it would be foolish to assume that human beings are not also powerfully influenced by people and other elements of the physical and social context. The most powerful model of teaching and learning would seem to emanate from the nexus of these viewpoints.

Since human interaction (internally with self and with others) is so central to constructivist theory, it seems relevant to examine the historical context that led to the evolution of constructivism. As the astute reader might have already guessed, the current trend toward adopting a constructivist epistemological position related to teaching and learning has had a long history.

Historical Antecedents

At about the same time that innovators such as Thomas Edison and Henry Ford were constructing their mechanical devices that would revolutionize the way people live, move about, and think, others--equally innovative--were rethinking the way children and adolescents truly learn, rather than absorb, imitate, and regurgitate. The influences of innovative educators such as William James, Charles Sanders Peirce, and John Dewey unfortunately have yet to be realized in the American classroom.

John Dewey, the most influential educational philosopher of the latter half of the nineteenth century, was the same

individual who filled the same office in the twentieth century. Dewey could well be termed a parent of the renewed focus upon constructivism with his focus on reflection, experience, the interaction of the learner and content, and relevancy. Dewey offered a clear vision of inadequacies in education during his era when he observed that:

> There is very little place in the traditional schoolroom for the child to work. The workshop, the laboratory, the materials, the tools with which the child may construct, create, and actively inquire, and even the requisite space, have for the most part been lacking. The things that have to do with these processes have not even a definitely recognized place in education. They are what educational authorities who write editorials in the daily papers generally term "fads" and "frills." (Dewey, 1907, pp. 48-49)

According to Dewey (1938), it was the **problematic element** that motivated and structured learning for students. Prawat (1992, 1998) more recently drew our attention to the importance of ideas and issues that allow and encourage students to engage intellectually in "authentic activities" that promote learning. Another critical piece of the classroom puzzle is the human interactive or social dimension, for as Dewey pointed out "to understand...is to anticipate together" (Dewey, 1925/1981, p. 141).

In summary, we believe that the potential benefits of

adopting a constructivist approach to teaching and learning have never been realized properly. The failure to maximize the potential of this approach might be better understood by examining in greater depth exactly what type of human relationships promote and destroy the construction of knowledge.

The Role of Relationships

The adoption of a constructivist approach to teaching and learning implies that particular elements of human relationships are adopted for successful instruction. For example, unhealthy, dictatorial, and teacher-centered styles of relating to others are in general antithetical to constructivism. In sharp contrast, teachers who have properly adopted a constructivist approach are guiding thoughtful students toward the discovery of defensible answers rather than telling students the answers that are simply "right" or "wrong." The facilitation of learning through the use of constructivism also will demand greater openness; depth of understanding; congruence between thoughts, values, beliefs, and behaviors; a non-judgmental atmosphere; and great patience. Learning becomes more of a shared interactive experience with active rather than passive involvement among all participants (teachers and students). Teachers and students must also share the responsibility for learning.

Constructivist learning theory relies upon the ability of teachers to help students perform several interrelated and interdependent cognitive processes such as: taking in relevant knowledge; remembering information, ideas, and relationships;

organizing knowledge; appropriately applying knowledge in order to solve meaningful problems, and sharing ideas and explanations with others. Students are not merely receivers of information, but instead are actively involved in creating, thinking, restructuring, modifying, organizing, reorganizing, and revising their ideas. Although at some fundamental level students have always constructed and will always construct their own knowledge, teachers employing this approach must encourage students to reflect upon their current knowledge and challenge students to consider the most efficient and effective use of such knowledge to solve problems and answer important questions.

What if we encouraged readers to consider the "true" confessions of an avid constructivist? Pertinent questions a student might ponder could include the following: What do I know about a particular topic and how do I know what I think that I know? How is my knowledge on a particular topic related to other knowledge (both similarities and differences are important here)? When I learn something new, how do I integrate this new knowledge in the structure of what I already know? If my current knowledge does not allow me to sufficiently understand a situation or solve a problem, how do I find a new conceptual framework that will elucidate the situation or problem? If I discover such a conceptual framework, how do I propose to communicate these ideas so that such thoughts might be better understood by others?

Our belief is that the human change process lies at the central core of the constructivist approach to learning and

teaching. Relationships that promote a mentally healthy teaching and learning environment and deep interpersonal communication are most likely to help students construct and modify knowledge. If the goal is to promote the advanced construction of knowledge, elevate understanding, stimulate creative thinking, promote the transfer of knowledge, encourage the adoption a new perspective, nurture conceptual change, and foster personal meaning, what characteristics of human relationships best promote such processes and outcomes?

It is apparent that teachers and students in a constructivist setting will need to explore and learn new ways to relate to each other as compared to when the educational goals involved rote learning; memorization of facts without understanding relationships, ideas, and concepts; situations where only a few students are able to solve practical problems; and always arriving at a uniformly expected answer through a common conceptual process. Constructivism demands major changes in teacher/student roles, relationships, learning strategies, evaluation outcomes, and interaction. Airasian and Walsh (1997) pointed out that "it is easy to 'say' that constructivist teachers must create an open, non-judgmental environment that permits students to construct, disclose, and expose their constructions to scrutiny. But listening and responding to student constructions will be difficult and time-consuming" (p. 448).

A Theoretical Framework

We have arrived at a critical juncture in the forward movement of the constructivist perspective of teaching and learning. What is needed is another theoretical paradigm that offers valuable insights into this cognitive change process and is firmly rooted in empirical and qualitative research evidence.

The most potent single theoretical perspective that can shed needed light on the human-change and perceptual-change process comes from the fields of counseling and psychotherapy. It is exactly the facilitative and mentally healthy relationship that is so crucial in therapy that can be used to better understand how to promote the construction of knowledge. The similarities between psychotherapy and constructivism are striking with respect to the need for cognitive change, personal insight, self discovery, interaction with others in a healthy climate, and permanent changes in behavior.

The work of Carl Rogers (1969; 1983; Rogers & Freiberg, 1994) offers an ample storehouse of how educational outcomes and processes related to the "facilitation of learning" and "student-centered learning" can be used to implement constructivism. Those who wish to advance constructivist theory and better understand how human relationships can foster the construction of knowledge will find key elements of the process in these citations and also qualitative and quantitative research data to support such an approach to teaching and learning.

It would appear that it has taken decades for the theoretical intersection of humanistic psychology and cognitive

psychology to become duly noted. Woolfolk (1998) suggests that the contributions of Carl Rogers, Abraham Maslow, and Art Combs "were not identified as constructivist at the time, though their **humanistic** philosophy and approach surely was consistent with constructivism" (p. 498). Readers might find an overview of the influence of humanistic psychology upon constructivist theory helpful in understanding these connections (see Herman, 1995).

Promoting the Construction of Knowledge

We hope that readers now are grounded in several essential elements of constructivist theory and prepared to explore a series of fundamental factors of human relationships that tend to encourage the construction of knowledge. The following points that highlight the importance of human relationships in the construction of knowledge are on occasion interrelated and deeply rooted in the historical, philosophical, and theoretical traditions cited earlier in this paper.

(1) Perhaps the most obvious element of the human relationship in the learning process is that the intellectual exchange must be mentally healthy. Only healthy relationships between teachers and students as well as students and other students can lower defensiveness and encourage trust. The ideas of manipulation (including subtle forms); labeling such as the ADHD student, "brain," or jock; power-based dynamics; and even the perception of being used or dominated are antithetical to constructivism.

(2) Communication skills must be maintained at a high level of functioning during constructivist learning. Active listening

ideally results in a person experiencing being heard, understood, and respected for his/her views on a topic. Teachers need to develop the art of knowing when to speak and when to listen. Although listening is the first element of the language arts that we learn to master, we appear to lose touch with this essential human relations skills through our formal schooling. Confrontation is also a necessary communication skill that needs to be used appropriately. Sometimes it will be necessary to dispute irrational assumptions and/or offer evidence that contradicts the view of another person. The delicate art of confrontation relies upon the use of comparison, contrast, compromising, and meeting of the minds. The intention behind such exchanges and even the perception of intentionality also becomes crucial in the process. From the learner's perspective, this constructive exercise becomes a form of mental and emotional torture where relief and pride is experienced only if a useful conclusion, gestalt, and generalization that will help with future dilemmas is the result. Some of the most fundamental questions in this domain include: If it is deemed necessary, how can we help students change their constructions of knowledge and view of the world? How can teachers be viewed, not as the omnipotent expert, but instead as someone who will challenge ideas and even disagree without thinking less of another person. (3) Great patience will be needed by teachers employing this approach. People are likely to change their perceptions and mental conceptualizations **only** when they decide they are ready to

accomplish this difficult, threatening, and complex task. Defensive behaviors tend to limit learning and people are often resistent to suddenly giving up these devices of psychological protection. Learning through the inductive and synthetic modes takes more time than deductive learning. Important judgements must be made related to the efficiency of learning. Some information might be most effectively shared in a direct (non-experiential) mode. However, when thinking and problem solving is the focus of learning in the classroom, strategies such as simulations, games, puzzles, riddles, cartoons, and conundrums might be more effective.

(4) Although an educational atmosphere of trust and respect is essential to this approach, such relationships are likely only to be established over a considerable period of time. As Airasian and Walsh (1997) pointed out, "changes in orientation for both teacher and student will not occur immediately, especially for those who have had a long time to be accustomed to the current norm of classroom practice. New ways of thinking, acting, organizing, and judging will always take time to develop" (p. 448). This change process is nurtured where healthy relationships prevail. Perhaps we want to think of adding to the student's repertoire for learning through adaptation rather than giving up one mode for another. Students need to learn that multiple representations of knowledge exist and how to become flexible and adept in using many models of decision making.

(5) Teachers must be willing to assimilate new perspectives or

points-of-view; question commonly held, established viewpoints, and underlying assumptions; and publicly debate the practicality and defensibility of perceptions and ideas. Perhaps each student has an optimal level of challenge that is needed to construct knowledge at any given point in time. If this is true, how do we meet the multiple needs of students in the classroom? If we fail to meet this challenge, nothing will change in education and internally in the hearts and minds of students. The status quo will prevail. The educational establishment has a vested interest in resisting change.

(6) Teachers must truly believe that all learners possess the ability to learn, can be helped to find their own best ways to learn and think, and will learn things that hold personal meaning for them. There is a clear philosophy related to teaching and learning espoused by constructivism. It is likely possible that some will pick up on some of the techniques without grasping or adopting the philosophy. This is clearly a potential future pitfall in the movement toward constructivism.

(7) Students must truly believe that teachers and at least some other valued students (significant others) harbor respect for their potential to learn, ability to reason, capacity to make personal judgments, and quest to make sense of the world. Students who do not trust that teachers really want to hear their ideas will continue to give the "right or socially acceptable answers" or no answers at all. Being willing to risk and expose one's ideas and conceptualizations of the world in a public forum

takes courage. Unfortunately, only such ideas that publicly surface can be evaluated and can have the merits debated. It is important to understand that constructivist theory does not assume that all ideas or conceptualizations of the world are of equal value. On the other hand, the fact that people hold misconceptions or even poorly conceived perceptions of the world need to be considered instructional starting points.

Summary

If constructivist theory is ever to transform the classrooms of the United States and the world into vibrant and healthy learning communities where new ideas can be generated and tested and existing perspectives critically examined, one key ingredient will be found in the relationships that exist between the prominent shareholders (students, parents, teachers, and society at large). It must be remembered that education is most fundamentally a human knowledge exchange enterprise. Researchers, theoreticians, practitioners, and policy makers interested in advancing constructivism are encouraged to examine carefully how human relationships constitute a necessary but not sufficient condition for excellence in education. We believe that even with inherent limitations, constructivism may be the last significant and attainable hope for real education and authentic learning!

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